REMARKS

INTRODUCTION:

In accordance with the foregoing, claims 1-35 have been retained in their present form (claims 15-35 are withdrawn).

No new matter is being presented, and approval and entry are respectfully requested.

REJECTION UNDER 35 U.S.C. §102:

A. In the Office Action, at pages 2-3, numbered paragraphs 3-8, claims 1 and 4-7 were rejected under 35 U.S.C. §102(e) as being anticipated by Segal (USPN 6,791,567; hereafter, Segal).This rejection is traversed and reconsideration is requested.

Anticipation requires a lack of novelty of the invention as claimed. The invention must have been known to the art in the detail of the claim; that is, all of the elements and limitations of the claim must be shown in a single prior reference, arranged as in the claim. See C.R. Bard, Inc. v. M3 Systems, Inc., 157 F3d 1340, 1349, 48 USPQ2d 1225, 1229-30 (Fed. Cir. 1998); Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

As set forth below in Table I, Segal fails to recite all of the elements and limitations of claim 1 of the present invention, arranged as in the claim.

Table I

USPN 6,791,567 Claim 14	Present Claimed Invention Claim 1
A system **for color clipping** an image to be displayed implemented in hardware or computer software, the image having **at least one value to be color clipped**, comprising: (emphasis added)	An apparatus for adjusting brightness of a screen on which input RGB signals are displayed, the apparatus comprising: (emphasis added)
logic for determining a **maximum value of at least one color component** of at least one pixel, **for at least one value to be color clipped**; (emphasis added) (e.g., max value of R)	a RGB color signal generator to detect a **total maximum value of the RGB color signals**, (emphasis added) (This is a brightness value, e.g., total maximum value = $R_{MAX} + G_{MAX} + B_{MAX}$)
logic for determining **a ratio of the maximum value to a maximum allowable** value for the at least one **value to be color clipped**; (emphasis added) (e.g., Color/$Max_{Component}$)	to **compare the total maximum value with a predetermined critical value**, and (emphasis added) (e.g., compare total maximum value with first critical value (full white)/second critical value (full black))
logic for **using a scaling factor based on the determined ratio**, responsive to the determined ratio, **for the at least one value of**	to generate RGB color signals so as to increase or decrease a brightness level of an image displayed on the screen by one of a

the pixel to be color clipped; and (emphasis added) (e.g., determine scaling factor)	plurality of predetermined ratios based on the comparison result; and (emphasis added) (e.g., if total maximum value is > first critical value, reduce brightness by predetermined ratio; if total maximum value is < second critical value, increase brightness by predetermined ratio)
wherein **the at least one pixel in the image has a value including the scaling factor determined according to** Max_{Pixel}-Max_{Pixel}*(x-Color/$Max_{Component}$)$^{scaling\ factor}$. (emphasis added) (note that the color correction of Max_{Pixel} is a subtraction of Max_{Pixel}*(x-Color/$Max_{Component}$)$^{scaling\ factor}$) from Max_{Pixel}	a system controller to provide the predetermined critical value to the RGB color signal generator. (emphasis added) (e.g., this is a color correction: compare each of R_{MAX}, G_{MAX}, B_{MAX} values with R_{INPUT}, G_{INPUT}, B_{INPUT} values, respectively; if $R_{INPUT} > R_{MAX}$, change R value to predetermined value for R (R_{PRED}), if $G_{INPUT} > G_{MAX}$, change G value to predetermined value for G (G_{PRED}), and if $B_{INPUT} > B_{MAX}$, change B value to predetermined value for B (B_{PRED}))

Above, claim 14 (a system/apparatus claim) of Segal is compared with claim 1 (an apparatus claim) of the present claimed invention. It is clear that Segal recites correction of color by correcting a maximum value of a pixel (MAX_{Pixel}) to be color clipped by subtracting a product of:

MAX_{Pixel}*(x-Color/$Max_{Component}$)$^{scaling\ factor}$. Similarly, the remaining claims of Segal correct color by correcting the maximum value of a pixel (MAX_{Pixel}) to be color clipped by subtracting a product of:

MAX_{Pixel}*(x-Color/$Max_{Component}$)$^{scaling\ factor}$.

In contrast, claim 1 of the present claimed invention recites correction of brightness by comparing a total maximum (brightness) value of the RGB color signals with a predetermined critical value to generate RGB color signals so as to increase or decrease a brightness level of an image displayed on the screen by one of a plurality of predetermined ratios based on the comparison result, and providing the predetermined critical (color) value to the RGB color signal generator.

Thus, it is respectfully submitted that independent claim 1 of the present invention is not anticipated under 35 U.S.C. §102(e) by Segal (USPN 6,791,567).

As for the dependent claims, claims 4-7 depend from claim 1 and include all the limitations of claim 1. Since claims 4-7 depend from claim 1, claims 4-7 are not anticipated

under 35 U.S.C. §102(e) by Segal (USPN 6,791,567) for at least the reasons that independent claim 1 is not anticipated under 35 U.S.C. §102(e) by Segal (USPN 6,791,567).

B. In the Office Action, at pages 3-5, numbered paragraphs 9-13, claims 8-11 were rejected under 35 U.S.C. §102(e) as being anticipated by Shiota (U.S. Publication 2004/0001165; hereafter, Shiota).This rejection is traversed and reconsideration is requested.

Anticipation requires a lack of novelty of the invention as claimed. The invention must have been known to the art in the detail of the claim; that is, all of the elements and limitations of the claim must be shown in a single prior reference, arranged as in the claim. See C.R. Bard, Inc. v. M3 Systems, Inc., 157 F3d 1340, 1349, 48 USPQ2d 1225, 1229-30 (Fed. Cir. 1998); Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

As set forth below, Shiota fails to recite all of the elements and limitations of claim 8 of the present invention, arranged as in the claim.

All of the independent apparatus claims of Shiota are written in the means plus function form. The claims being prosecuted in the present application are apparatus claims. Because courts are concerned with the public notice function of patents and with the potential for vague or ambiguous claims that do not properly disclose inventions, patent claims written in functional language, though permitted, are more narrowly construed than claims written in structural terms. Patentees are limited to the exact structure disclosed in the specification and its structural equivalents and are required to link the function recited in the patent claim to some particular structure disclosed elsewhere in the patent.

The citations of p. 2-3, paragraphs {0030]-[0035] of Shiota recite means plus function, and thus are limited as shown below in the table. The citations of page 9, paragraphs [0181]-[0182] refer to the maximum values and minimum values described in paragraph [0183] (see table below), which is different from adjusting a color temperature of a screen on which input RGB color signals are displayed, which is set forth for claim 8 of the present invention in the table. Claim 1 of Shiota does not set forth a system controller to provide the RGB color signal generator with the predetermined value and data on conditions necessary for detecting a color signal having the higher maximum value than the other color signals, wherein, for example. a color correction is determined by comparing each of, G_{MAX}, B_{MAX} values with R_{INPUT}, G_{INPUT}, B_{INPUT} values, respectively so that if $R_{INPUT} > R_{MAX}$, R value is changed to a predetermined value for R (R_{PRED}), if $G_{INPUT} > G_{MAX}$, G value is changed to a predetermined value for G (G_{PRED}), and if $B_{INPUT} > B_{MAX}$, B value is changed to a predetermined value for B (B_{PRED})).

Table II

US 2004/0001165 (Shiota) Claim 1	Claim 8 of the present invention
An image processing apparatus which **corrects a gray scale** by extending part of a luminance level range of an input video luminance signal to a dynamic range of a processing system, comprising: (emphasis added)	An apparatus for **adjusting a color temperature** of a screen on which input RGB color signals are displayed, the apparatus, comprising: (emphasis added)
minimum value detecting means which detects a minimum value of the input video luminance signal; (emphasis added) (see paragraph [0177] "The operation of the present embodiment is described below. First, an input video luminance signal is supplied to the low-pass filter 1. The low-pass filter 1 removes isolation point information from the input video luminance signal for output. The output signal is sampled in horizontal and vertical directions at respective appropriate sampling rates, and is then supplied to the histogram detecting circuit 2, the maximum value detecting circuit 3, and the minimum value detecting circuit 4." (emphasis added))	a RGB color signal generator to detect a **maximum value of each of a plurality of color signals comprising the RGB color signals**, (emphasis added) (This is a brightness value, e.g., total maximum value = $R_{MAX} + G_{MAX} + B_{MAX}$)
histogram detecting means which detects luminance distribution information of the input video luminance signal; (emphasis added) (see paragraph [0177]: "These histogram detecting circuit 2, maximum value detecting circuit 3, and minimum value detecting circuit 4 respectively detect, for each field, a maximum value Kmax, a minimum value Kmin, and information about distribution in a gray scale direction in a detection WINDOW set within a screen." (emphasis added))	to compare the maximum values (emphasis added) (e.g., compare total maximum value with first critical value (full white)/second critical value (full black))
minimum value correcting means which obtains a corrected minimum value by correcting the minimum value detected by the minimum value detecting means based on the luminance distribution information detected by the histogram detecting means; and (emphasis added) (see paragraph [0183]: "Here, the minimum value correcting circuit 6 performs the correcting process so as to decrease the minimum value Kmin when the amount of distribution n1 of the first part of the four-part split histogram supplied as the histogram information by the histogram detecting circuit 2 is sufficiently large and, conversely, to increase the minimum value Kmin when n1 is	to generate other RGB color signals, if one of the maximum values is greater than the others, having a color temperature increased to a predetermined value; and (emphasis added) (e.g., if total maximum value is > first critical value, reduce brightness by predetermined ratio; if total maximum value is < second critical value, increase brightness by predetermined ratio)

sufficiently small. With this, black can be enhanced when a distribution of black is small, while the gray scale of black can be kept when the distribution of black is large. This correcting method is illustrated in FIG. 3(b). In FIG. 3(b), a converting function for the amount of distribution n1 and an amount of correction D (=the corrected minimum value Lmin-the minimum value Kmin) is represented as D=f(n1). This function should be optimized in accordance with a display device." (emphasis added)	
luminance signal correcting means which extends the input video luminance signal so that the corrected minimum value obtained by the minimum value correcting means becomes a minimum value of the dynamic range of the processing system. (emphasis added) (see paragraph [0181]: "In the image processing apparatus according to the present embodiment, based on the maximum value Kmax and minimum value Kmin detected in the input video luminance signal, the corrected maximum value Lmax and the corrected minimum value Lmin are first calculated. How to calculate these corrected maximum value Lmax and corrected minimum value Lmin is described further below in detail. Then, as with the conventional method of correcting the gray scale, the input video luminance signal is corrected so that the corrected maximum value Lmax and the corrected minimum value Lmin are respectively extended to the maximum value MAX and the minimum value MIN of an output signal. This corresponds to the above-described operation of MAX/(Lmax-Lmin).times.(L-Lmin)." (emphasis added))	a system controller to provide the RGB color signal generator with the predetermined value and data on conditions necessary **for detecting a color signal having the higher maximum value** than the other color signals. (emphasis added) (e.g., this is a color correction: compare each of R_{MAX}, G_{MAX}, B_{MAX} values with R_{INPUT}, G_{INPUT}, B_{INPUT} values, respectively; if $R_{INPUT} > R_{MAX}$, change R value to predetermined value for R (R_{PRED}), if $G_{INPUT} > G_{MAX}$, change G value to predetermined value for G (G_{PRED}), and if $B_{INPUT} > B_{MAX}$, change B value to predetermined value for B (B_{PRED}))

Above, claim 1 (an apparatus claim) of Shiota is compared with claim 8 (an apparatus claim) of the present claimed invention. It is clear that claim 1 of Shiota recites correcting a gray scale by extending a part of a luminance level range of the input signal to a dynamic range, but does not adjust brightness of a screen on which input RGB color signals are displayed, utilizing a RGB color signal generator to detect a total maximum value of the RGB color signals, to compare the total maximum value with a predetermined critical value, and to generate RGB color signals so as to increase or decrease a brightness level of an image displayed on the screen by one of a plurality of predetermined ratios based on the comparison result; and a system controller to provide the predetermined critical value to the RGB color signal generator,

as is recited in independent claim 8 of the present invention.

Thus, independent claim 8 of the present invention is submitted not to be anticipated under 35 U.S.C. §102(e) by Shiota (U.S. Publication 2004/0001165). As for the dependent claims, claims 9-11 depend from claim 8 and include all the limitations of claim 8. Since claims 9-11 depend from claim 8, claims 9-11 are not anticipated under 35 U.S.C. §102(e) by Shiota (U.S. Publication 2004/0001165) for at least the reasons that claim 8 is not anticipated under 35 U.S.C. §102(e) by Shiota (U.S. Publication 2004/0001165).

REJECTION UNDER 35 U.S.C. §103:

A. In the Office Action, at pages 5-6, numbered paragraphs 14-17, claims 2 and 3 were rejected under 35 U.S.C. §103(a) as being unpatentable over Segal in view of Park (U.S. Publication No. 2002/0163527; hereafter, Park). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Dependent claims 2 and 3 depend from claim 1, and include all the limitations of claim 1. Segal does not teach or suggest the elements of claim 1 (see Table I above). Claim 1 of the present invention adjusts a brightness of a screen wherein a RGB color signal generator detects a total maximum value of the RGB color signals and compares the total maximum value of the RGB color signals with a predetermined critical value, to generate RGB color signals so as to increase or decrease a brightness level of an image displayed on the screen by one of a plurality of predetermined ratios based on the comparison result. For example, if a total maximum value is > a first critical value, reduce brightness by a predetermined ratio; if a total maximum value is < a second critical value, increase brightness by a predetermined ratio. A system controller provides the predetermined critical value to the RGB color signal generator. This is a color correction. Each of R_{MAX}, G_{MAX}, and B_{MAX} values are compared with corresponding R_{INPUT}, G_{INPUT}, and B_{INPUT} values, respectively. If $R_{INPUT} > R_{MAX}$, R value is changed to a predetermined value for R (R_{PRED}). If $G_{INPUT} > G_{MAX}$, G value is changed to a predetermined value for G (G_{PRED}). Also, if $B_{INPUT} > B_{MAX}$, B value is changed to a predetermined value for B (B_{PRED}).

In contrast, Segal recites in claim 1: "A method for color clipping an image to be displayed, the image having at least one value to be color clipped, comprising the steps of: (A) determining a **maximum value of** at least **one color component** for the at least one value; (B) **determining a ratio** of the **maximum value to a maximum allowable value**; (C) **determining a scaling factor** based on the determined ratio; (D) **setting the value to be color clipped** to a value including the scaling factor; and (E) wherein step (D) includes **determining the value including the scaling factor to be**; Max_{Pixel}-Max_{Pixel}*(x-Color/$Max_{Component}$)$^{scaling\ factor}$" (emphasis added).

Clearly, Segal does not teach or suggest the adjustment of the brightness and color temperature that is set forth for claim 1 of the present claimed invention, wherein the total maximum value of the RGB color signals is utilized. The ratios utilized are different, and the total computations are different.

Park recites adjusting a brightness of a monitor to obtain a black point, and adjusting settings to then obtain a white point. Park's method is not utilized in the present invention. In the present invention, claim 1, an apparatus adjusts brightness of a screen on which input RGB signals are displayed, by using a RGB color signal generator to detect a **total maximum value of the RGB color signals**, e.g., total maximum value = R_{MAX} + G_{MAX} + B_{MAX}, to **compare the total maximum value with a predetermined critical value**, e.g., compare total maximum value with first critical value (full white)/second critical value (full black), generate RGB color signals so as to increase or decrease a brightness level of an image displayed on the screen by one of a plurality of predetermined ratios based on the comparison result, e.g., if total maximum value is > first critical value, reduce brightness by predetermined ratio; if total maximum value is < second critical value, increase brightness by predetermined ratio, and using a system controller to provide the predetermined critical value to the RGB color signal generator, e.g., color correcting by: comparing each of R_{MAX}, G_{MAX}, and B_{MAX} values with R_{INPUT}, G_{INPUT}, and B_{INPUT} values, respectively, and if $R_{INPUT} > R_{MAX}$, change R value to predetermined value for R (R_{PRED}), if $G_{INPUT} > G_{MAX}$, change G value to predetermined value for G (G_{PRED}), and if $B_{INPUT} > B_{MAX}$, change B value to predetermined value for B (B_{PRED}).

The Examiner submits that Segal discloses "an apparatus wherein if the total maximum value is greater than the first predetermined critical value, the RGB color signal generator decreases the brightness level of the image on the screen by one of the predetermined ratios by generating less-bright RGB color signals ...brightness is reduced by a determined scaling factor and a ratio is part of this calculation." However, as noted above, in claim 1 of the present invention, if a total maximum value is greater than a first critical value, the brightness is reduced by a predetermined ratio, and a color correction is implemented by: comparing each of R_{MAX}, G_{MAX}, and B_{MAX} values with R_{INPUT}, G_{INPUT}, and B_{INPUT} values, respectively, and if $R_{INPUT} > R_{MAX}$, changing the R value to a predetermined value for R (R_{PRED}), if $G_{INPUT} > G_{MAX}$, changing the G value to a predetermined value for G (G_{PRED}), and if $B_{INPUT} > B_{MAX}$, changing the B value to a predetermined value for B (B_{PRED}).

As admitted by the Examiner, Segal does not disclose that if the total maximum value is less than the second predetermined critical value, the RGB color signal generator increases the brightness level of the image on the screen by another of the predetermined ratios by generating brighter RGB color signals. The Examiner suggests that Park's setting a color to a relative brightness of 0 increases brightness by a certain ratio. It is respectfully submitted that setting a

value to 0 does not increase brightness by a certain ratio. Such a resetting of a value is simply like adding a base value to the present values (raising each by the same amount, not according to a ratio), and is not like changing values proportionally (as by a ratio). Hence, Park does not suggest adjusting brightness in the same manner as claim 1 of the present invention.

Hence, even if Segal and Park are combined, Segal and Park do not teach or suggest claim 1 of the present invention.

Hence, claim 1 of the present invention is submitted to be patentable under 35 U.S.C. §103(a) over Segal in view of Park (U.S. Publication No. 2002/0163527). Since claims 2 and 3 depend from claim 1, claims 2 and 3 are submitted to be patentable under 35 U.S.C. §103(a) over Segal in view of Park (U.S. Publication No. 2002/0163527) for at least the reasons that claim 1 is patentable under 35 U.S.C. §103(a) over Segal in view of Park (U.S. Publication No. 2002/0163527).

B. In the Office Action, at pages 6-8, numbered paragraphs 18-20, claims 12-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Shiota in view of Segal. The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

As admitted by the Examiner, "Segal does not disclose an apparatus for adjusting a color temperature of a screen on which input RGB color signals are displayed, the apparatus, comprising: a RGB color signal generator to detect a maximum value of each of a plurality of color signals comprising the RGB signals, to compare the maximum values, and to generate other RGB color signals, to compare the maximum values, and to generate other RGB color signals, if one of the maximum values is greater than the others, having a color temperature increased to a predetermined value; and a system controller to provide the RGB color signal generator with the predetermined value and data on conditions necessary for detecting a color signal having the higher maximum value than the other color signals."

As noted above, all apparatus claims of Shiota are in means plus function form, and thus are limited to the apparatus embodiments set forth in the specification. Paragraphs [0002]-[0003] of page 1, recited by the Examiner, set forth setting a minimum value to 0, a maximum value to 255 in digital 8 bit processing, and linearly interpolating to obtain the intermediate values. This automatic adjustment is not the same as the adjustment of the present invention, as is recited in claim 12 of the present invention:

> An apparatus adjusting brightness and color temperature of a screen on which input RGB color signals are displayed, the apparatus, comprising:
> an RGB color signal generator to <u>determine a maximum value of each of a plurality of color signals</u> comprising the RGB color signals and <u>a total maximum value of the input RGB color signals</u>, to <u>compare the total maximum value with a predetermined</u>

critical value, to generate other RGB color signals so as to increase and decrease a brightness level of the input RGB color signals based on the comparison result, to compare the maximum values and if one of the maximum values is greater than the others to generate at least one RGB color signal having a color temperature varying by a predetermined value; and

a system controller to provide the RGB color signal generator with data on the predetermined critical value, a reference value used for detecting the color signal having the higher maximum value than the others, and the predetermined value.

That is, in the present invention, a first critical value is compared with a total maximum RGB brightness value, and if the total maximum RGB brightness value is greater than the first critical value, the brightness is reduced by a predetermined ratio. A second critical value is compared with the total maximum RGB brightness value, and if the total maximum RGB brightness value is less than the second critical value, the brightness is increased by a predetermined ratio. Then, a maximum of each of the RGB color values is compared with an input for each of the RGB color values. If the input RGB color value is greater than the maximum of the RGB color value, the input RGB color value is set to a predetermined value for that RGB color.

It is respectfully submitted that the adjustments of the present claimed invention are non-obvious, and have not been taught or suggested by Segal or Shiota, and even if combined, Shiota and Segal do not teach independent claim 12 of the present invention.

Hence, it is respectfully submitted that claim 12 of the present invention is patentable under 35 U.S.C. §103(a) over Shiota in view of Segal. Since claims 13-14 depend from claim 12, claims 13-14 of the present invention are patentable under 35 U.S.C. §103(a) over Shiota in view of Segal for at least the reasons that claim 12 is patentable under 35 U.S.C. §103(a) over Shiota in view of Segal.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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